

REMARKS

This amendment is responsive to the Office Action mailed January 25, 2006 (the "Office Action"). The Examiner is thanked for allowing Claims 11-17, 28-29, and 37-38.

The Office Action rejected Claims 1-10, 18-20, 30, 33-36, and 39-49. Claims 18-19 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 3,689,885, issued to Kaplan. Claims 18-19 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaplan in view of U.S. Patent No. 5,258,766, issued to Murdoch. Claims 20-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,606,323, issued to Heinrich, in combination with U.S. Patent No. 6,072,421, issued to Fukae, and U.S. Patent No. 6,456,668, issued to MacLellan. Claims 43 and 46-47 were rejected under 35 U.S.C. §§ 102(e) and 102(b) as being anticipated by U.S. Patent No. 6,646,543, issued to Mardinian. Claims 7-10 and 39-49 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mardinian in combination with U.S. Patent No. 5,841,770, issued to Snodgrass. Claims 1-2, 5-6, and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mardinian, in combination with Snodgrass, as applied further in view of MacLellan. Claims 3-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mardinian, in combination with Snodgrass and MacLellan, and further in view of U.S. Patent No. 5,307,349, issued to Shloss. Claims 34-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mardinian, in combination with Snodgrass and MacLellan, and further in view of U.S. Patent No. 4,479,194, issued to Fogg.

Claims 7, 8, 18, 19, 30, and 39-49 have been canceled without prejudice. Claim 1 has been amended to correct a clerical error. Claims 1-6, 9-17, 20-29, and 33-38 are pending.

Applicants have carefully considered each of the cited references and the remarks made in the Office Action and submit that the claims presented above are in patentable condition.

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Reconsideration of the application and allowance of the claims at an early date is respectfully requested.

Rejection of Claims 18-19, 40, 43, and 46-47 Under 35 U.S.C. §§ 102(b) and 102(e)

As noted above, Claims 18-19, 40, 43, and 46-47 have been canceled without prejudice, thus rendering the rejection moot.

Rejection of Claims 1-10, 18-27, 30, 33-36, and 39-49, Under 35 U.S.C. § 103(a)

As noted above, Claims 7, 8, 18, 19, and 39-49 have been canceled without prejudice, thus rendering the rejection moot. Applicants respectfully submit that Claims 1-6, 9-10, 20-27, 30, and 33-36 are allowable for at least the reasons presented below.

Claims 1-5 Are Patentable Over the Prior Art

Amended independent Claim 1 recites, *inter alia* ". . . an interrogator transmitter and an interrogator receiver which operate in half-duplex mode, wherein said interrogator transmitter is capable to transmit messages received from said host computer to said plurality of RFID transponders during the first part of said half-duplex mode and provide an illumination signal to said plurality of RFID transponders during a second part of said half-duplex mode." Mardinian does not teach or suggest an interrogator receiver which operates in half-duplex mode. More specifically, Mardinian does not teach or suggest an interrogator transmitter that transmits messages received from a host computer to a plurality of RFID transponders during a first part of said half-duplex mode and provide an illumination signal to said plurality of RFID transponders during a second part of said half-duplex mode. Mardinian discloses an anti-collision algorithm for information exchange between a terminal and a plurality of badges (Col. 2, lines 13-19; Col. 3, lines 1-5). Additionally, Mardinian does not teach or suggest a host computer having an interrogator transmitter and an interrogator receiver which operate in half-duplex mode. Mardinian discloses a data terminal that communicates with a plurality of badges by transmitting

a variety of commands, such as GENCALL and COM, and then switching to a receiver mode (Col 5, lines 18-20, 56-58; Col 6, lines 26-27). Therefore, Mardinian does not teach or suggest the use of half-duplex operation, let alone using a half-duplex operation having a first part and a second part for transmission of messages and illumination signals, respectively.

Snodgrass does not supply the teachings missing from Mardinian. Therefore, amended independent Claim 1 is submitted to be allowable for at least the reasons presented above. Snodgrass discloses commander and responder stations that generate packets that may contain messages and commands. Snodgrass teaches away from half-duplex transmission. Snodgrass discloses that "[w]hen more than one station transmits on the common medium *simultaneously*, the resulting interfering transmissions can be detected as an improper transmission" (emphasis added). (Col. 3, lines 51-56). The possibility of simultaneous transmission precludes half-duplex transmission, by definition.

MacLellan fails to supply the teachings missing from Mardinian and Snodgrass. MacLellan discloses that "a duplex radio communication system comprises an Interrogator which generates a radio signal to at least one remote Tag" (Col. 2, lines 4-6).

Claims 1-5 depend from Claim 1 and are submitted to be allowable for at least the same reasons as presented above with respect to Claim 1.

#### Claim 6 Is Further Patentable Over the Prior Art

Claim 6 recites "wherein an RFID transponder is further configured to use said random number generator to *generate* a unique identification code." (Emphasis added). Mardinian does not teach or suggest an RFID transponder configured to use a random number generator to *generate* a unique identification code. Mardinian discloses a badge that produces a pseudo-random value that is compared with a received probability modulation parameter (Col. 3, lines 33-35). The pseudo-random value generated by the badge is not used as a unique

identification code, rather, it is used to determine whether the badge will transmit in response to the commands issued by the terminal (Col. 5, lines 18-25). Snodgrass does not supply the teachings missing from Mardinian. Snodgrass discloses "[w]hen one commander station chooses to specify only one responder station that should act on a command and should reply, that commander station includes in its command an ARBITRATION NUMBER as in formats 144 and 146 identifying the responder station" (emphasis added). (Col. 11, lines 18-22). Snodgrass indicates that such arbitration number is used when only one responder station is specified. Additionally, Snodgrass does not indicate the use of a random number generator to generate a unique identification code, as recited by Claim 6. MacLellan fails to supply the teachings missing from Mardinian and Snodgrass. MacLellan discloses that "each Tag may have a fixed or programmed identification number" (emphasis added) (Col. 2, lines 65-66), teaching away from generating a unique identification code, as recited by Claim 6.

#### Claims 9-10 Are Patentable Over the Prior Art

Independent Claim 9 recites, *inter alia*, "transmitting a re-select identification code command to a plurality of RFID transponders; generating, at said plurality of RFID transponders, a first random number and calculating a new identification code based upon said random number" (emphasis added). Mardinian does not teach or suggest generating a first random number and calculating a new identification code based upon said first random number. Mardinian discloses a badge including a serial number used for identifying the badge among other badges. Mardinian further discloses that "more precisely, this field contains a serial number within the strict meaning of the term 'serial', together with the manufacturer number." (Col. 5, lines 49-54). Those skilled in the art appreciate that serial numbers are generally assigned by manufacturers of hardware components. Serial numbers are generally used for inventory control and component tracking during and after the manufacturing process and are

generally not dynamically assigned after production. An identification code comprising a serial number is in contrast to a dynamically generated identification code based on a generated random number, as recited by Claim 9. Mardinian does not teach or suggest generating an identification code based on a random number, let alone generating a new identification code based on a random number.

Snodgrass does not supply the teachings missing from Mardinian. Snodgrass discloses "[w]hen one commander station chooses to specify only one responder station that should act on a command and should reply, that commander station includes in his command an ARBITRATION NUMBER as in formats 144 and 146 identifying responder station" (emphasis added, Col. 11, lines 18-22). Snodgrass discloses that such arbitration number is used when only one responder station is specified. Additionally, Snodgrass does not teach or suggest the use of a random number generator to generate an identification code, let alone a new identification code. Therefore, independent Claim 9 is submitted to be allowable for at least the reasons presented above.

Claim 10 depends from Claim 9 and is submitted to be allowable for at least the same reasons presented above with respect to Claim 9.

#### Claims 20-27 Are Patentable Over the Prior Art

Independent Claim 20 recites, *inter alia*, "a receiver configured to receive a message with an FSK modulated spread spectrum signal . . . and a controller coupled to said receiver, said controller being configured to receive said message and selectively respond to said message in PSK format" (emphasis added). Heinrich does not teach or suggest a receiver configured to receive a message with an FSK modulated spread spectrum signal and a controller configured to selectively respond in PSK format. Heinrich discloses a diode modulator that is used to change the loading of an RF transponder antenna between a first state and a second state of the

transponder electronic circuitry, thereby changing the intensity of the RF radiation backscattered from the RF Tag (Col. 2, lines 56-60).

Fukae fails to supply the teachings missing from Heinrich. Fukae is directed to a system for determining the position of a vehicle on a highway (Col. 1, lines 6-8). Fukae discloses examples of digital signal modulation including amplitude shift keying (ASK), phase shift keying (PSK) and frequency shift keying (FSK). Fukae does not teach or suggest a receiver configured to receive a message within FSK modulated spread spectrum signal and a controller configured to selectively respond to said message in PSK format.

MacLelland fails to supply the teachings missing from Heinrich and Fukae. MacLelland discloses a tag that generates a subcarrier signal using quadrature phase shift keying (QPSK) (Col. 2, lines 8-10). MacLelland does not teach or suggest a receiver configured to receive a message within an FSK modulated spectrum spread spectrum signal, and the controller configured to selectively respond to said message in PSK format. MacLelland does not teach or suggest using both an FSK and a PSK format in one system, as recited by Claim 20. Therefore, Claim 20 is submitted to be allowable for at least the reasons presented above.

Claims 21-27 depend from Claim 20 and are submitted to be allowable for at least the same reasons presented above with respect to Claim 20.

#### Claim 33 Is Patentable Over the Prior Art

Independent Claim 33 recites, *inter alia*, "receiving at said host said transmitted identification codes associated with particular RFID transponders and storing said identification codes and associated antenna information in memory" (emphasis added). Mardinian does not teach or suggest storing identification codes and associated antenna information in memory. Mardinian discloses a system wherein "a specific data communication link is established between the terminal and the badge and data interchange is continued" (emphasis added; Col. 3,

lines 14-16). Independent Claim 33 further recites "further communication with a particular one of said plurality of transponders is performed by using said identification code and said antenna information (emphasis added). Mardinian does not teach or suggest receiving at a host transmitted identification codes and antenna information and storing such information in memory at the host for further communication, as recited by Claim 33.

Snodgrass fails to supply the teachings missing from Mardinian. Snodgrass does not teach or suggest further communication with a particular one of a plurality of transponders performed using identification code and antenna information. Snodgrass discloses that a message transmitted from a commander station includes the unique identification of one responder station (emphasis added; Col 4, lines 4-5).

MacLellan fails to supply the teachings missing from Mardinian and Snodgrass. MacLellan discloses a tag that generates a self-carrier signal using quadrature phase shift keying (QPSK) and an interrogator that receives a reflective modulated signal to obtain information signal. (Col. 2, lines 7-13). MacLellan does not teach or suggest storing identification codes and associated antenna information in memory for further communications. Therefore, independent Claim 33 submitted to be allowable for at least the reasons presented above.

#### Claims 34-36 Are Patentable Over the Prior Art

Independent Claim 34 recites, *inter alia* "an interrogator transmitter and an interrogator receiver which operate in half-duplex mode, wherein said interrogator transmitter is capable to transmit messages received from said host computer to said plurality of RFID transponders during the first part of said half-duplex mode and provide an illumination signal to said plurality of RFID transponders using a second part of said half-duplex mode (Emphasis added). As discussed above, with respect to Claim 1, Mardinian does not teach or suggest the host computer having an interrogator transmitter and an interrogator receiver which operate in half-duplex

mode, let alone a half-duplex mode comprising a first part and a second part, as recited by independent Claim 34. As noted above, with respect to Claim 1, Snodgrass and MacLellan fail to supply the teachings missing from Mardinian. Furthermore, Fogg fails to supply the teachings missing from Mardinian, Snodgrass, and MacLellan. Fogg discloses a microprocessor based ballot card reading system which has automatic mark detection, threshold adjustment, automatic skew and card speed correction for accurate reading of a ballot card (Abstract). Fogg does not teach or suggest the half-duplex communication mode comprising a first part and a second part used to transmit messages between an interrogator and a plurality of RFID transponders, as recited by independent Claim 34. Therefore, independent Claim 34 is submitted to be allowable for at least the reasons presented above.

Claims 35 and 36 depend from Claim 34 and are submitted to be allowable for at least the same reasons as presented above with respect to Claim 34.

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## CONCLUSION

In view of the foregoing amendments and remarks, applicants submit that the present application is in condition for allowance. Early action to that end is respectfully requested. Should any issues remain needing resolution prior to allowance, the Examiner is invited to contact applicants' attorney at the telephone number indicated below.

Respectfully submitted,

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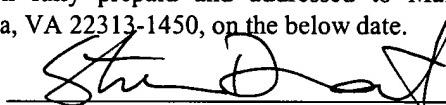


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